



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,269	12/20/2001	Phillip D. Neumiller	42503	2363
8968	7590	10/05/2005	EXAMINER	
GARDNER CARTON & DOUGLAS LLP			NGUYEN, HAO X	
ATTN: PATENT DOCKET DEPT.				
191 N. WACKER DRIVE, SUITE 3700			ART UNIT	
CHICAGO, IL 60606			PAPER NUMBER	
			2662	

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/022,269	<b>Applicant(s)</b> NEUMILLER ET AL.	
	<b>Examiner</b> Hao X. Nguyen	<b>Art Unit</b> 2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4-7, 9-15, and 17-20 are rejected under 35 U.S.C. 102 (e) as being anticipated by Ramanathan (US Pat. No. 6,577,613 B1).

In regards to claims 1, 5, 9, 11, 12, 17, and 19,

Referring to Figures 1 and 3A, Ramanathan discloses a client that transmits a request-to-send (RTS) signal 303 to the server (column 4; lines 31-

49; column 5, lines 41-47; claims 1 and 12 - transmitting a request to send message from said mobile node to a plurality of other nodes in said network; claims 9 and 17 - transmitting a request to send message from each of said plurality of other nodes in said network to said mobile node).

Referring to Figures 1, 2, and 3A Ramanathan also discloses a server that replies with clear-to-send (CTS) signal 304. Next, a client transmits data 305 (column 4; lines 31-49; column 5, lines 6-18 and 47-55; claims 1, 5, 11, and 12 – and transmitting said data packet from said mobile node to each respective one of said other nodes in said network upon said mobile node receiving a respective clear to send message from said each respective other node; claims 9, 17 and 19 - and transmitting said data packet from each respective one of said other nodes in said network to said mobile node upon each other nodes receiving a respective clear to send message from said mobile node).

In regards to claims 4 and 13,

Referring to Figure 2, Ramanathan discloses a client terminal 204 that includes a processor 205 connected with an associated memory 206. Memory 206 stores network applications for controlling a processor 205 in order to implement a method for reserving access to a communication channel in a corresponding network.

Referring to Figure 3A, Ramanathan discloses a client that transmits data 305 to a server as soon as the client receives a CTS signal 305 from the server. The client and server subsequently transmit respective RTS and CTS signals for

the remaining data transmissions in session 300 (column 4; lines 31-49; column 5, lines 7-18 and 47-59; claims 4 and 13 - said controller is adapted to control said transmitter to transmit said data packet to a respective said other node in said network after said mobile node receives said respective clear to send message from said respective other node irrespective of whether said mobile node has received another respective clear to send message from any more of said other nodes).

In regards to claims 6 and 15,

Referring to Figures 1, 2, and 3A, Ramanathan discloses a client that transmits a request-to-send (RTS) signal 303 to a server. If the server replies with a clear-to-send (CTS) signal 304. Then, the client transmits data 305.

Ramanathan also discloses a server 201 that corresponds with servers 108, 109, or 113, via the Internet. Client terminal 204 corresponds with any of terminals and networks 102-104 (column 4, lines 31-42, and 51-67; column 5, lines 1-18, and 41-55; claims 6 and 15 - said data packet transmitting narrowcasts said data packet to said other nodes).

In regards to claim 7,

Referring to Figure 1, Ramanathan discloses a server 201 that corresponds with servers 108, 109, or 113, via the Internet. Client terminal 204 corresponds with any of terminals and networks 102-104 (column 4, lines 31-42, and 51-67; column 5, lines 1-18, and 41-55; claim 7 - said narrowcast includes a plurality of unicasts).

In regards to claims 10 and 18,

Referring to Figure 3A, Ramanathan discloses a client that transmits data 305 to a server as soon as the client receives a CTS signal 305 from the server. The client and server subsequently transmit respective RTS and CTS signals for the remaining data transmissions in session 300 (column 10; lines 31-49; column 5, lines 47-59; claims 10 and 18 - said data packet transmitting transmits said data packet from a respective said other node in said network to said mobile node after said respective other node receives said respective clear to send message from said mobile node irrespective of whether any of said other nodes has received another respective clear to send message from said mobile node).

In regards to claim 14,

Referring to Figure 2, Ramanathan discloses a client terminal 204 that includes a processor 205 connected with an associated memory 206. Memory 206 stores network applications for controlling a processor 205 in order to implement a method for reserving access to a communication channel in a corresponding network.

Referring to Figures 1, 2, and 3A Ramanathan also discloses a server that replies with clear-to-send (CTS) signal 304. Next, a client transmits data 305 (column 4; lines 31-49; column 5, lines 6-18 and 47-55; claim 14 – said controller is adapted to control said transmitter to transmit said data packet to each of said plurality of other nodes in said network after said mobile node receives each said respective clear to send message from each said respective other node).

In regards to claim 20,

Referring to Figure 1, Ramanathan discloses a wireless network 100 that includes an ad hoc network 102 (column 4, lines 51-67; column 5, lines 1-6; claim 20 – a mobile ad-hoc communications network as in claim 17, wherein: at least one of said nodes is mobile).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramanathan, in view of Teder et al (US Pat. No. 5,828,659), hereafter Teder.

In regards to claim 2,

Referring to Figure 3A, Ramanathan discloses a client that transmits data 305 to a server.

Referring to Figures 1 and 2, Ramanathan discloses a server 201 that corresponds with servers 108, 109, or 113, via the Internet. Client terminal 204 corresponds with any of terminals and networks 102-104 (column 4, lines 51-67;

column 5, lines 1-12 and 52-55; claim 2 – receiving a plurality of realizations of said packet sent to said other nodes at a destination node via a plurality of relay nodes).

However, Ramanathan does not disclose a destination node that processes said received plurality of realizations to minimize a likelihood of packet error.

Teder discloses a receiver that uses time alignment commands to synchronize data packets (column 4, lines 4-15 and 57-67; claim 2 – and processing said received plurality of realizations at said destination node to minimize a likelihood of packet error).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify a destination node of Ramanathan to process said received plurality of realizations to minimize a likelihood of packet error, as shown by Teder, so that synchronized reception in a mobile station can be achieved even for large cells (Teder; column 4; lines 10-15 and 62-64).

In regards to claim 3,

Referring to Figures 3A and 3B, Ramanathan discloses a client that transmits a RTS signal 301 to a server. The RTS signal 301 includes a channel capacity scheme 340 identified by B (bits) 360 and I (interval) 365 (column 5, lines 65-67; column 6, lines 9-15; claim 3 - when said destination node receives said plurality of realizations of said packets in a Rake window, said destination node combines said plurality of realizations of said packet).



However, Ramanathan does not disclose a destination node that buffers packets received outside of said Rake window, in a delay jitter buffer and selects one of said packets meeting a certain criteria.

Teder discloses a mobile receiver that buffers packets received outside of a Rake window. These packets were selected using time alignment commands. (column 4, lines 4-15 and 62-67; claim 3 – when said destination node receives said plurality of realizations of said packets outside of said Rake window, said destination node buffers said packets in a delay jitter buffer and selects one of said packets meeting a certain criteria).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify a destination node of Ramanathan to buffer packets received outside of said Rake window, in a delay jitter buffer and to select one of said packets meeting a certain criteria, as shown by Teder, so that interference can be eliminated (Teder; column 4; lines 12-15).

Claims 8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramanathan, in view of Choi et al (US Pat. No. 6,272,117 B1), hereafter Choi.

Ramanathan discloses the above limitations of claims 1 and 12, but it does not disclose a RTS message and a CTS message that each includes unicast addressing information representing an available number of routes in said network via which to route said data packet to said destination node, each of said available routes including at least one of said other nodes.

Referring to Figure 4, Choi discloses a wireless data terminal that transmits a RTS packet to a base station. This uplink data packet includes a "Base Station Color code" field 411, identifying the base station to which the packet relates, and a "Pager ESN" field 421, uniquely identifying the wireless data terminal.

Referring to Figure 5, Choi discloses a base station that transmits a CTS packet to a wireless data terminal. This downlink control packet includes a "Base Station Color code" field 511, identifying the base station to which the packet relates, and a "Pager ESN" field 521, uniquely identifying the wireless data terminal

(column 8, lines 17-40 and 63-64; column 9, lines 14-15, 27-41, and 52-67; claims 8 and 16 - said request to send message and said clear to send messages each include unicast addressing information representing an available number of routes in said network via which to route said data packet to said destination node, each of said available routes including at least one of said other nodes).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify a RTS message and a CTS message of Ramanathan to include unicast addressing information representing an available number of routes in said network via which to route said data packet to said destination node, each of said available routes including at least one of said other nodes, as

shown by Choi, so collision can be avoided among wireless data terminals in competing for an uplink message channel (Choi; column 8; lines 41-51).

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Angelico et al. (US Pub. No. 2002/0006123 A1) discloses Enhanced Adjacency Detection Protocol For Wireless Applications.

Garcia-Luna-Aceves et al. (US Pub. No. 2002/0080768 A1) discloses Receiver-Initiated Multiple Access For Ad-Hoc Networks (RIMA).

Fantaske (US Pub. No. 2002/0045435 A1) discloses Wireless Communication System.

Joa-Ng, M.( Communications, 2000. ICC 2000. 2000 IEEE International Conference on Volume 1, 18-22 June 2000 Page(s): 408 - 414 vol.1) discloses Spread spectrum medium access protocol with collision avoidance using controlled time of arrival.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hao X. Nguyen whose telephone number is 571-272-8195. The examiner can normally be reached on M-F 8AM-5PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-8195. The fax

Art Unit: 2662

phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hao X. Nguyen  
Examiner  
Art Unit 2662



HASSAN KIZOU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600